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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,000	06/26/2001	Jani Mantyjarvi	413-010437-US(PAR)	1519

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PERMAN & GREEN
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FAIRFIELD, CT 06824

EXAMINER

EDWARDS JR, TIMOTHY

ART UNIT PAPER NUMBER

2635

DATE MAILED: 07/06/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,000

Applicant(s)

MANTYJARVI ET AL.

Examiner

Timothy Edwards, Jr.

Art Unit

2635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4, 6-17 and 19-24 is/are rejected.
7) ☒ Claim(s) 5 and 18 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 26 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 4,5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Examiner cannot find in the specification language to support "determining the position or recognizing the movement of a three-dimensional obstacle. Referring to specification page 7, lines 29-36, fig 7 shows a method of implementing a three-dimensional network using two infrared transceivers at a known angle.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,6,7,15,19,23,24 are rejected under 35 U.S.C. 102(e) as being anticipated by Natoli [US 6,388,657].

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Considering claim 1, Natoli discloses a virtual reality keyboard system and method comprising a) emitting an infrared radiation in a plane (see fig 48); b) placing an obstacle in the radiation plane (see fig 48); c) receiving infrared radiation reflected from an obstacle in the plane (see col 18, lines 1-8); d) preprocessing the received reflected signal (see col 11, lines 40-50); e) determining the position of the obstacle on the basis of the received preprocessed signal (see col 11, line 63 to col 12, line 4); f) determination of the position of the obstacle using a neural network using the preprocessed signal (see col 11, line 21-29).

Considering claim 6, Natoli discloses the limitations of this claim in col 4, lines 48-64, col 7, lines 16-24, col 9, lines 43-65 and col 11, lines 40-50.

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Considering claim 7, Natoli discloses the limitations of this claim in col 4, lines 48-67, col 18, lines 1-16.

Considering claim 15, Natoli discloses the limitation of this claim in col 11, lines 6-28.

Considering claim 19, Natoli discloses the limitation of this claim in col 4, line 52 to col 5, line 6.

Considering claim 23, Natoli discloses the limitation of this claim in col 4, line 52 to col 5, line 6, col 9, lines 36-42, col 11, line 40-50 and line 63 to col 12, line 4 and col 18, lines 1-52, see figs 47 and 48.

Considering claim 24, Natoli discloses the limitation of this claim in col 9, lines 52-58.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2,16,17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natoli, and further in view of Haikonen [FI 103305] (submitted IDS).

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Considering claim 2, examiner could not find the limitation, the neural network arrangement is a BP network but on page 5, lines 32-36 of applicant's specification states "the neural network arrangement is a multiplayer-perception (MLP) network". Examiner will treat claim 2 as reciting an MLP network. Natoli does not specifically recite a neural network arrangement is a MLP network. However, Haikonen teaches on page 1, line 34 to page 2, line 6 the use of a MLP network applicable in the human/machine interface, personal electronic assistants and/or means of communication and the virtual reality environment. Therefore, it would have been obvious to arrange the neural network of the Natoli system as a MLP network as taught by Haikonen because both references are concern with the use of a neural network in the field of virtual reality and man/machine interfaces.

Considering claims 16,17 the limitations of these claims are interpreted and rejected as stated in claim 2.

Claims 20-22, rejected under 35 U.S.C. 102(b) as being anticipated by Haikonen.

Considering claim 20, Haikonen discloses the limitations of this claim in page 2, lines 25-29, page 3, lines 8-19, page 5, lines 19-26, page 6, lines 11-27 and page 9, line 14 to page 10, line 8.

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Considering claim 21, Haikonen discloses the limitations of this claim in page 9, lines 14-23.

Considering claim 22, Haikonen discloses the limitations of this claim in page 9, lines 24-31.

Claims 8-14, are rejected under 35 U.S.C. 103(a) as being unpatentable over Natoli.

Considering claim 8, Natoli does not specifically recite the infrared receiver includes a peak value hold circuit. However, in col 18, lines 17-52 Natoli suggests the modification of his system in form and details without departing from the scope and spirit of his invention, which is the use of a neural network to detect actuation of a virtual keyboard. The modification could be structure, components, means, method and algorithm. Therefore, it would have been obvious to one of ordinary skill in the art to modify the components used in detecting the actuation of keys on a virtual keyboard because Natoli suggests this modification.

Considering claim 9-14, the limitations of these claims are interpreted and rejected as stated in claim 8.

Allowable Subject Matter

Claims 3,18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 4,5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

1. Any inquiry concerning this communication should be directed to Examiner Timothy Edwards at telephone number (703) 305-4896. The examiner can normally be reached on Monday-Thursday, 8:30 a.m.-4:00 p.m. The examiner cannot be reached on Fridays.

If attempt to reach the examinee by telephone are unsuccessful, the examiner's supervisor, Michael Horabik, can be reached on (703) 305-4704.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700, Mon-Fri., 8:30 a.m.-5:00 p.m.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or fax to:

(703), 872-9314 (for formal communications intended for entry)

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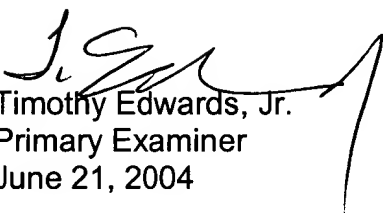
Or:

(for informal or draft communications, please label "PROPOSED"

or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).


Timothy Edwards, Jr.
Primary Examiner
June 21, 2004